Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1-50.   (cancelled)

51. (new) A method for screening a plurality of compounds so as to identify at least one compound exhibiting cognitive enhancing activity, comprising:

   a) determining *in vitro* efficacy and EC_{50} values for each compound at an $\alpha_1\beta_2\gamma_2$ or an $\alpha_5\beta_3\gamma_2$ $GABA_A$ subtype receptor;

   b) determining an *in vitro* efficacy value for each compound at a $GABA_A$ receptor comprising an α_2 or α_3 subunit; and

   c) identifying as exhibiting cognitive enhancing activity a compound having: an EC_{50} value determined in a) of less than about 200nM, an efficacy value determined in a) of less than about -5%, and an efficacy value determined in b) of greater than about 5%.

52. (new) The method of Claim 51 wherein the EC_{50} measured in step a) is less than 150 nM.

53. (new) The method of Claim 52 wherein the *in vitro* efficacy measured at said $\alpha_1\beta_2\gamma_2$ GABA$_A$ subtype receptor or said $\alpha_5\beta_3\gamma_2$ GABA$_A$ subtype receptor is less than -10%.

54. (new) The method of Claim 53 wherein the *in vitro* efficacy measured at said GABA$_A$ receptor comprised of said α_2 subunit or said α_3 subunit is greater than 10%.

55. (new) The method of Claim 51 wherein the *in vitro* efficacy measured at said $\alpha_1\beta_2\gamma_2$ GABA$_A$ subtype receptor or said $\alpha_5\beta_3\gamma_2$ GABA$_A$ subtype receptor is less than -10%.

56. (new) The method of Claim 55 wherein the *in vitro* efficacy measured at said GABA$_A$ receptor comprised of said α_2 or said α_3 subunit is greater than 10%.

57. (new) The method of Claim 51 wherein the GABA$_A$ receptor comprised of said α_2 subunit is an $\alpha_2\beta_3\gamma_2$ GABA$_A$ receptor or the GABA$_A$ receptor comprised of said α_3 subunit is an $\alpha_3\beta_3\gamma_2$ GABA$_A$ receptor.

58. (new) A method for screening compounds for cognitive enhancing activity, comprising:
   a) selecting compounds having a binding affinity less than 100 nM at any GABA$_A$ receptor;
   b) determining *in vitro* efficacy and EC$_{50}$ values for each selected compound at an $\alpha_1\beta_2\gamma_2$ or $\alpha_5\beta_3\gamma_2$ GABA$_A$ subtype receptor;

c) determining *in vitro* efficacy and EC_{50} values for each selected compound at a $GABA_A$ receptor comprised of an α_2 or α_3 subunit; and

d) identifying as having cognitive enhancing activity any compound having an EC_{50} value determined in b) of less than 200nM and an efficacy value measured in b) of less than -5%, and an efficacy value measured in c) of greater than 5%.

59. (new) A method for screening a plurality of compounds for cognitive enhancing activity, comprising:

a) determining *in vitro* efficacy and EC_{50} values for each compound at $\alpha_1\beta_2\gamma_2$ or $\alpha_5\beta_3\gamma_2$ $GABA_A$ receptors;

b) determining *in vitro* efficacy for each compound at a $GABA_A$ receptor comprised of an α_2 or α_3 subunit;

c) determining the *in vivo* effect of each compound in an animal model for measuring cognitive enhancement;

d) determining the *in vivo* effects of each compound in an animal model for proconvulsant activity by measuring a seizure threshold in the presence of a seizure inducing compound or in an animal model that predicts anxiogenic effects; and

e) identifying a cognitive enhancing compound as a compound having cognitive enhancing properties when the EC_{50} measured in step a) is less than 200nM and the efficacy measured in step a) is less than -5% and the efficacy measured in step b) is greater than 5% and said compound produces a statistically significant ($p < 0.05$) positive effect in the animal model indicative of cognitive enhancement and said compound does not produce an effect in the animal model predictive of

proconvulsant activity of more than a 25% decrease in
the seizure threshold in the presence of the seizure
inducing drug, or does not produce a change that is
statistically significant in said model, or the
compound does not produce a statistically significant
effect in the animal model that predicts anxiogenic
effects.

60. (new) A method for screening compounds for cognitive
enhancing properties, comprising:

    a)   selecting compounds having binding affinities of
        less than 100 nM at any $GABA_A$ receptor;

    b) measuring the *in vitro* efficacy of each compound at
        an $\alpha_1\beta_2\gamma_2$ or $\alpha_5\beta_3\gamma_2$ $GABA_A$ receptor;

    c) measuring the *in vitro* efficacy of each compound at
    a $GABA_A$ receptor comprised of an α_2 or α_3 subunit;

    d) measuring the *in vivo* effect of each compound in an
    animal model predictive of cognitive enhancement;

    e) measuring the *in vivo* side effects of each compound
    in an animal model that predicts proconvulsant
    activity by measuring a seizure threshold in the
    presence of a seizure inducing compound or measuring
    the *in vivo* side effects of each compound in an animal
    model that predicts anxiogenic effects; and

    f) identifying as a cognitive enhancing compound a
    particular compound for which the EC_{50} measured in step
    b) is less than 200nM and the efficacy measured in
    step b) is less than -5% and the efficacy measured in
    step c) is greater than 5% and said particular
    compound produces a statistically significant (p
    <0.05) positive effect in the animal model indicative

of cognitive enhancement and said particular compound
does not produce an effect in the animal model
predictive of proconvulsant activity of more than a
25% decrease in the seizure threshold in the presence
of the seizure inducing drug, or does not produce a
change that is statistically significant in said
model, or said particular compound does not produce a
statistically significant effect in the animal model
that predicts anxiogenic effects.

61. (new) A method for screening a plurality of compounds
so as to identify at least one compound exhibiting
cognitive enhancing activity, comprising:

    a) determining *in vitro* efficacy and EC_{50} values for
each compound at an $\alpha_1\beta_2\gamma_2$ and an $\alpha_5\beta_3\gamma_2$ $GABA_A$ subtype
receptor;

    b) determining an *in vitro* efficacy value for each
compound at a $GABA_A$ receptor comprising an α_2 or α_3
subunit; and

    c) identifying as exhibiting cognitive enhancing
activity a compound having: EC_{50} values determined
in a) of less than about 200nM at each subtype
receptor, efficacy values determined in a) of less
than about -5% at each subtype receptor, and an
efficacy value determined in b) of greater than about
5%.

62. (new) The method of Claim 61 wherein the EC_{50} values
measured in step a) are less than 150 nM at each subtype
receptor.

63. (new) The method of Claim 62 wherein the *in vitro* efficacy values measured in step a) are less than -10% at each subtype receptor.

64. (new) The method of Claim 63 wherein the *in vitro* efficacy measured at said GABA$_A$ receptor comprised of said α_2 subunit or said α_3 subunit is greater than 10%.

65. (new) The method of Claim 61 wherein the *in vitro* efficacy values measured in step a) are less than -10% at each subtype receptor.

66. (new) The method of Claim 65 wherein the *in vitro* efficacy measured at said GABA$_A$ receptor comprised of said α_2 or said α_3 subunit is greater than 10%.

67. (new) The method of Claim 61 wherein the GABA$_A$ receptor comprised of said α_2 subunit is an $\alpha_2\beta_3\gamma_2$ GABA$_A$ receptor or the GABA$_A$ receptor comprised of said α_3 subunit is an $\alpha_3\beta_3\gamma_2$ GABA$_A$ receptor.

68. (new) A method for screening a plurality of compounds so as to identify at least one compound exhibiting cognitive enhancing activity, comprising:

    a) determining *in vitro* efficacy and EC$_{50}$ values for each compound at an $\alpha_1\beta_2\gamma_2$ and an $\alpha_5\beta_3\gamma_2$ GABA$_A$ subtype receptor;

    b) determining an *in vitro* efficacy value for each compound at a GABA$_A$ receptor comprising an α_2 or α_3 subunit; and

c) identifying as exhibiting cognitive enhancing
activity a compound having: EC_{50} values determined
in a) of less than about 200nM at each subtype
receptor, an efficacy value determined in a) of less
than about -10% at the $\alpha_5\beta_3\gamma_2$ $GABA_A$ subtype receptor, an
efficacy value determined in a) of greater than about
10% at the $\alpha_1\beta_2\gamma_2$ $GABA_A$ subtype receptor, and an efficacy
value determined in b) of greater than about 5%.

69. (new) The method of Claim 68 wherein the EC_{50} values
measured in step a) are less than 150 nM at each subtype
receptor.

70. (new) The method of Claim 68 wherein the *in vitro*
efficacy measured at said $GABA_A$ receptor comprised of said
α_2 subunit or said α_3 subunit is greater than 10%.

71. (new) The method of Claim 68 wherein the $GABA_A$ receptor
comprised of said α_2 subunit is an $\alpha_2\beta_3\gamma_2$ $GABA_A$ receptor or
the $GABA_A$ receptor comprised of said α_3 subunit is an $\alpha_3\beta_3\gamma_2$
$GABA_A$ receptor.